KODAK

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PHOTOGRAPHIC TRAINING
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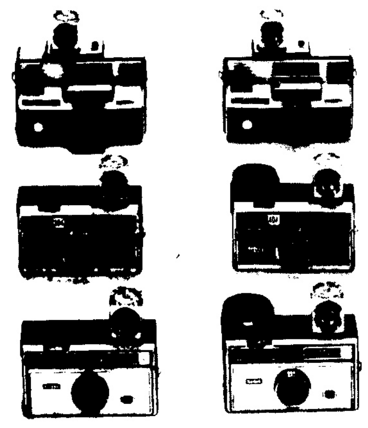
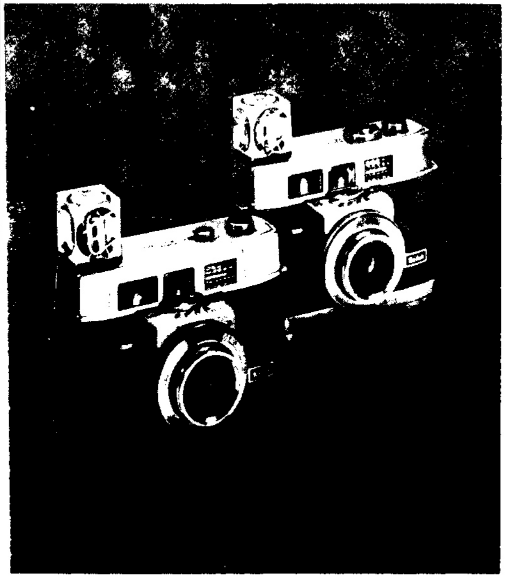
THE ✳ FLASHCUBE STORY

We flatter ourselves—and you—in the belief that our readers are interested in the nuts and bolts of new equipment, as well as in its advertising. A case in point: the flashcubes recently introduced by Sylvania, and the line of Kodak Cameras designed to use them. Together they represent a new concept in flash photography and camera design. Here's the story of what they are and how they work.



Flashcubes

A flashcube is an assembly of four small flashbulbs, each accurately positioned in a vacuum-formed reflector of aluminized propionate material. A transparent styrene cover seals the whole unit. A stem on the base of each flashcube fits a socket on the top of any camera designed to use flashcubes. After each flash shot, the film is advanced and the flashcube is rotated 90 degrees to bring a fresh flashbulb into firing position. When all four bulbs in a flashcube have been fired, the entire cube is discarded.



Advantages

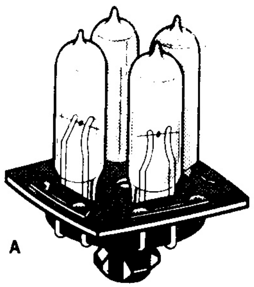
One obvious advantage of flashcubes is ease of handling. A flashcube is big enough to hold and insert easily. It seats firmly and positively in the camera, with no base wires to bend out of shape. The transparent cover acts as a built-in flash shield in case a bulb should ever shatter. You can remove a just-fired flashcube without scorching your fingers. You can carry a pocketful of flashcubes without the danger of their firing accidentally through friction. Since a flashcube contains bulbs and reflectors, it needs only a power supply to work—so cameras that use flashcubes don't require separate flash holders.

Another obvious advantage of flashcubes is shooting speed. It's possible to make four flash pictures as fast as the film can be advanced. With motor-driven cameras, such as the Kodak Instamatic 154, 404, and 804, or the Kodak Motormatic 35R4, it's possible to take four flash pictures in five seconds. (You can approximate this speed even with manu-

A Four blue flashbulbs, each [illegible] half the volume of an [illegible], are precisely positioned by slots in the base of the flashcube and are anchored by wire leads attached to the base.

B The four reflectors are vacuum-formed from a single sheet of aluminized propionate material.

C A transparent safety cover [illegible] from styrene is ultrasonically [illegible] to the base.



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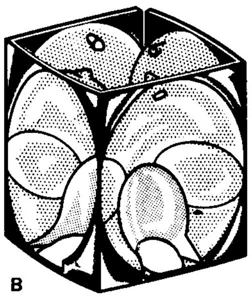

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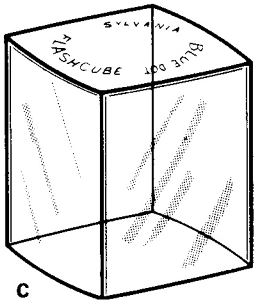

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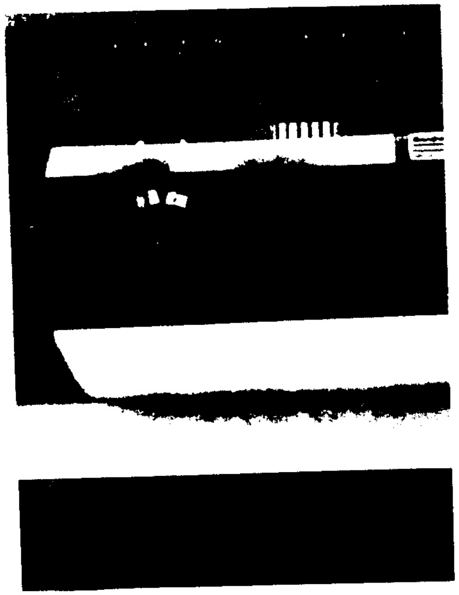


ally-advanced cameras.)

As a flashcube rotates, the electrical contacts are subjected to a "self-wiping" action that results in superior electrical contact and more positive synchronization.

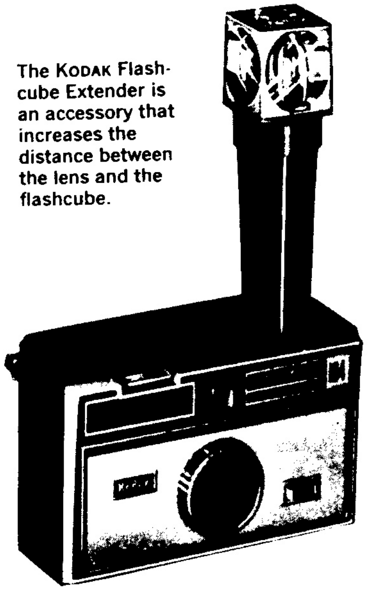
Even though the small bulbs are approximately half the size of an AG-1B, their light output in their reflectors is greater than the output of an AG-1B in the "pop-up" reflectors used in older INSTAMATIC Cameras. Each bulb is precisely centered in a bright, efficient, bowl-shaped reflector designed to produce maximum light output. The reflectors don't suffer efficiency losses caused by dust, scratches, or discoloration, because they're in a sealed unit and each reflector is used only once. Sylvania recommends the following flash exposure guide numbers for shutter speeds up to 1/30 second, with "X" synchronization:

Film Speed	*Guide Number*
25 to 32	55
40 to 64	75
100 to 125	100
160 to 200	130
320 to 500	200

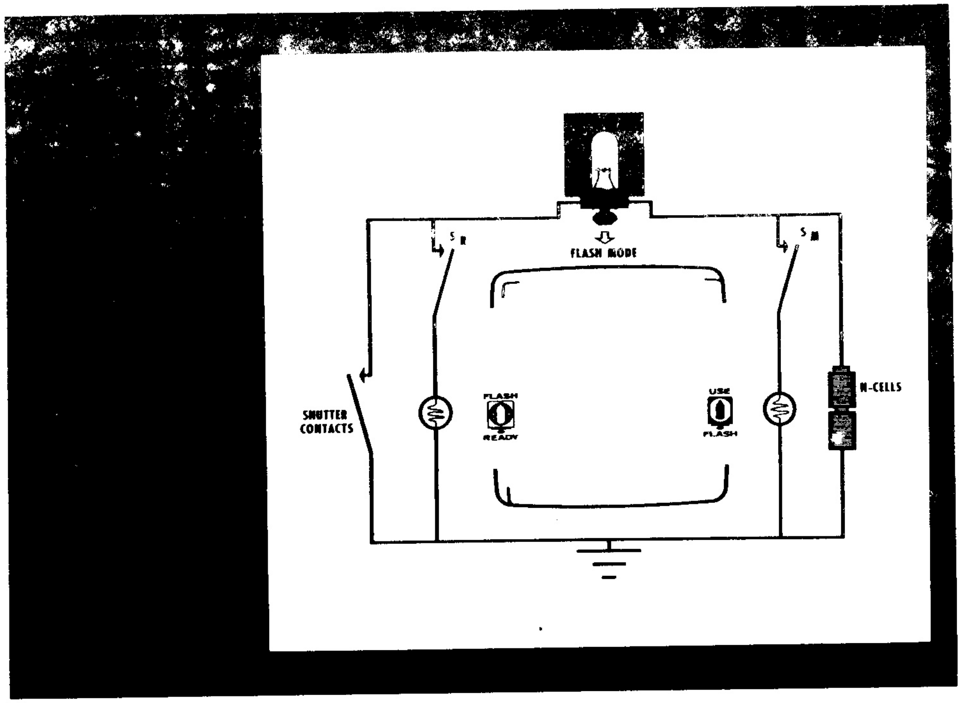
The Cameras

Flashcubes are an ingenious advance in photography. But they don't mean a thing without cameras designed to use them. That's where Kodak comes in—with a line of six new KODAK INSTAMATIC Cameras and two automatic 35mm cameras. Instead of a conventional pop-up flash holder, each of the new cameras has a socket on the top into which the molded styrene base of the flashcube is inserted. The hollow stem of the flashcube slips over a center post in the flashcube socket, which holds the flashcube securely under spring tension. This assures good electrical contact and firm, accurate positioning of the flash.

On cameras with manual film advance, such as the KODAK INSTAMATIC 104 and 304, actuating the film-advance lever transports the film and winds a spring under the flashcube socket. On the upstroke of the shutter release, a drive ratchet connected to the flashcube socket is released, allowing the spring to rotate the flashcube 90 degrees. An indexing lever stops the rotation when the next bulb is in firing position.



The KODAK Flashcube Extender is an accessory that increases the distance between the lens and the flashcube.



Cameras with motor-driven film advance, such as the KODAK INSTAMATIC 154, 404, or 804, or the KODAK MOTOR-MATIC 35R4, use an arrangement of springs and gears to rotate the flashcube after each shot.

On each of the six new INSTAMATIC Cameras, the act of inserting the flashcube in its socket automatically changes the camera's shutter speed to permit best flash synchronization. When the flashcube is ejected, the shutter returns to a higher speed for daylight shooting.

When the wife of one of our friends heard about flashcubes, she said she didn't want one. Why not? Because she didn't want to be forced to take four flash pictures one after the other! No comment.

Needless to say, you don't need to use all four bulbs before removing the flashcube. Use one or two, use the others later.

New 704 and 804 Cameras

On the INSTAMATIC 704 or 804 Camera, inserting the flashcube also engages a linkage between the diaphragm and the focusing scale. The act of focusing the camera sets the correct lens aperture for flash pictures.

Illuminated Viewfinder Signals

The viewfinders of KODAK INSTAMATIC 704 and 804 Cameras contain illuminated signals to tell when flash is needed and when a new flashbulb is in position for firing.

Each signal is illuminated by a tiny, 1,000-hour "grain-of-wheat" bulb, powered by the same two batteries used for firing flashbulbs.

Flashcubes and Other Cameras

In the months to come, adapters will be available to permit the use of flashcubes with many existing cameras.